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Dear Joshua,

Thank you very much for the photographs. I am very pleased to have something"tangible" to show to the incredulous people, although of course I ~~think~~ agree it is better to reserve comments about it. The photographs are beautiful. I have never seen bacteria as well as in those. Die Verbindungsbrücke are rather thin ; have you ever caught nuclear bodies passing across ?

I hope you had meanwhile a(rather chaotic)letter of mine. Tinks is gone away, the work is not yet completely finished, but the data already collected have been analysed almost entirely. A rather peculiar conclusions seem to stem out of these. Prezygotic elimination of one (or the other) "arm" , arms being divided by a "point of maximum elimination"close to Hfr, between St and Gal (W 945) seems to offer a better explanation of the data for the F+ x F- crosses. No prezygotic elimination seems to take place for F+ x F+ , at least for the right"arm" (Lac T_1 LT) in the lines employed, Hfr x F- seems to give a picture of postzygotic elimination which might be expected if the elimination point behaved as a lethal. Most of the data in the literature, on prototrophs analysis, seem to be amenable to interpretation on the basis of pre or post-zygotic (indistinguishable in the published data)elimination, centered at the usually constant elimination point referred to above. Whether this will prove just an essay of solving a crossword puzzle in an apparently correct way , but with a fundamentally wrong solution, or it corresponds to something physically meaningful, I am not prepared to say. However, in interpreting literature data , the assumption of poor pairing whenever odd crossover numbers between two selective markers are not selected for seems necessary. At any rate, the Gal (W 945) - Hfr linkage seems conclusively established ; a trace of a complementary gene complementary to this for Hfr behaviour , located in the LT region, has been noticed.

Concerning the Microbiology Congress. The paper for Chain should give no troubles. I shall have to shorten it to keep to the time limits ; I imagine I shall insist only on replica plating for the first part, and summarise evenly the second part. Concerning the paper on recombination, of which I sent you an abstract : I had to assume your consent to it, having had no reply about it. Proof of the abstract is enclosed. If you have any important remarks about it you should write or better wire to me , hoping to be in time for having the alteration made. The paper should be handed over before the end of the Congress; about 10 typewritten sheets are allowed.

I shall certainly be unable to prepare it for that date, but I am fairly certain that the paper would be accepted also at a later date. If you think you would like to write it, and take senior authorship in the written paper, I should be very pleased if you did. I could in that case let you have, say, in September, a summary of my data which I shall present to the Congress, to be taken account of in a synthetic way, so that the written paper could partially reflect things that were actually said at the Congress. I have not yet a clear idea of what I shall actually say ; if you have any suggestions, please do let me have them in time !

Hfr : My impression is that Hfr is actually less efficient in handing over to progeny markers like B_1 and M , than those of the right arm. We have recently had experience on the fact that Hfr passes to the progeny the St marker with a rate comparable, and occasionally smaller, to that of F+. However, I am practically certain, from the early data , that B_1+ is contributed by Hfr far more efficiently than by F+ ; but that the efficiency is less than for TL. Whether Hayes has got the same sort of Hfr that I had, cannot be said until direct comparisons will be made. However, for the moment, I think the Gal-Hfr linkage would be a good test. Almost all Gal+ progeny from Gal+Hfr x W 945 is Hfr. Reverse was not done, a few Gal-Hfr recombinants detected in a Hfr Str cross having unfortunately been discarded accidentally, and being not easily reobtainable.

Cytology. If I can secure any decent collaboration on the subject, next year, I shall try to follow your work, as in the plans. Perhaps, as you have been so successful in it, you may prefer to be alone at this job. However, as you may remember from the early correspondence, I have some interest for it, even if I have been so inefficient about it until now. I hope you will be entirely frank about it.

Please give my regards to Roger Stanier

Yours sincerely

luca.

P.S. I pass on to you a suggestion I had from Calef. To make certain that Verbindungsbrücke are formed between Hfr and F- cells you may mark one of the two parents with P32 and correlate Giemsa staining with radioautographs.

Best congratulations for the Lilly Award lecture.